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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,994	08/21/2001	Thomas Gray	481340010036	7624

7590 11/21/2006

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EXAMINER

WU, QING YUAN

ART UNIT	PAPER NUMBER
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2194

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,994

Applicant(s)

GRAY ET AL.

Examiner

Qing-Yuan Wu

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 8-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 8-9 is/are rejected.
- 7) ☒ Claim(s) 2-3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-4 and 8-9 are pending in the application.

Allowable Subject Matter

2. Claims 2-3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al (hereafter Ferguson) (U.S. Patent 5,504,894).
5. Ferguson was cited in the last office action.

6. As to claim 1, Ferguson teaches the invention substantially as claimed including a method of sharing a resource amongst a plurality of applications issuing requests in different request classes [col. 2, lines 62-67], comprising the steps of:

- i) dynamically assigning a priority to each of a plurality of request queues associated with respective ones of said request classes [col. 2, lines 43-45];
- ii) receiving and queuing said requests from said applications in said plurality of queues in accordance with said respective request classes [col.3, lines 1-5; col. 9, lines 20-25; Fig. 2];
- iii) allocating said resource to one of said applications whose request has highest priority in a highest priority one of said queues [abstract, lines 14-17; col. 8, lines 3-6, 12-15], and
- iv) in response to said one of said applications relinquishing said resource [col. 7, line 67] repeating steps i) to iii) [col. 5, lines 38-39; col. 7, lines 66-67].

7. Ferguson does not specifically teach that the assigning of a priority in accordance with a moving average resource allocation to each of said respective request classes and the priority assigned to a respective request queue being a function of the moving average resource allocation to the associated request class, and allocating resource to a request that has been queued longest. However, Ferguson disclosed dynamically adjusting scheduling priorities of a class in accordance with the response time dissatisfaction performance index of a class [col. 2, lines 45-47; col. 3, lines 37-45; col. 5, lines 57-67], transaction class queues [col. 9, lines 20-29]

and determining a highest priority queued transaction using a round-robin scan [col. 8, lines 15-16].

8. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that Ferguson's performance index of a class is an average of response time which determines the priority of a class and is directly affected by the resource usage of that class in its corresponding Back-End Processors (hereafter BEP) [col. 6, lines 20-64; col. 8, lines 20-21] and to have modify the dynamic adjustment of class priority due to the deviation from an established norm (i.e. changes in resource consumption) as being considered by Ferguson with the precursor of such established norm (i.e. changes in resource allocation) because resource used or consumed requires prior allocation [queued for CPU service, col. 9, lines 23-24]. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have replace Ferguson's used of a non-priority sorted queue that uses a round-robin scan to determined a highest priority queued transaction with a first-come first-served (hereafter FCFS) queue to satisfy a predetermined scheduling criteria.

9. As to claims 4 and 8-9, Ferguson as modified does not specifically teach wherein the priority assigned to each of said plurality of request queues in accordance with said moving average resource allocation conforms to a predetermined linear, exponential or step function with steps of varying size. However, Ferguson disclosed updating class priorities based on goal satisfaction [col. 3, lines 37-46; col. 7, lines 8-10]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have included the above limitation

to further clarify the relationship between priority function and the moving average resource allocation.

Response to Arguments

10. Applicant's arguments filed 9/6/06 have been fully considered but they are not persuasive.

11. In the remarks, Applicant argued in substance that:

- a. The present invention is not a predictive process.
- b. Applicants submit that resource allocation is not equivalent to resource usage.

12. Examiner respectfully traversed Applicant's remarks:

13. As to point (a), in response to applicant's argument, the examiner has edited the mapping to further clarify the teaching of Ferguson. Ferguson includes a departure algorithm to calculate performance index based on historical response times versus the response time of recent departures (i.e. non-predictive) [col. 6, lines 20-64].

14. As to point (b), the examiner acknowledged the differences between resource allocation and resource usage/consumption. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modify the dynamic adjustment of class

priority due to the deviation from an established norm (i.e. changes in resource consumption) as being considered by Ferguson with the precursor of such established norm (i.e. changes in resource allocation) because resource used or consumed requires prior allocation [queued for CPU service, col. 9, lines 23-24].

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The examiner can normally be reached on 8:30am-6:00pm Monday-Thursday and alternate Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Qing-Yuan Wu

Examiner

Art Unit 2194


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SUPERVISORY PATENT EXAMINER
ART UNIT 2194